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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,337	01/22/2004	Michael J. Scianamblo	15513-002001	5767
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FISH & RICHARDSON P.C. 3300 DAIN RAUSCHER PLAZA MINNEAPOLIS, MN 55402			EXAMINER O CONNOR, CARY E	
			ART UNIT	PAPER NUMBER
			3732	

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/764,337	<b>Applicant(s)</b> SCIAMBLO	
	<b>Examiner</b> Cary E. O'Connor	<b>Art Unit</b> 3732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4-6, 10-16 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Buchanan (5,921,775). Buchanan shows an endodontic instrument 50 comprising a shaft that includes an end, a tip, one or more flutes 57, and a longitudinal axis. At least one flute includes a cutting edge configured to cut when the shaft is rotated in a first direction about the longitudinal axis, and wherein the flute spirals around the shaft in an end-to-tip longitudinal direction and in a second direction of rotation that is opposite the first direction (see Figure 4G and column 15, lines 4-12). As to claim 4, note Figure 4E-1. As to claims 5 and 6, note that the tip may be cutting (column 14, lines 46-50) or non-cutting (column 14, lines 60-61). As to claim 10, note that the instrument may be formed of NiTi (column 6, lines 30-33). As to claim 11, note the attachment 81 for coupling the shank end of the instrument to an engine operable to rotate the instrument. As to claim 12, note that the cutting edge is a right-handed cutting edge (Figure 4). As to claim 13, note that the cutting edge is a left-handed cutting edge (Figure 4G). As to claims 14 and 15, the instrument may be a hand-type or rotary instrument. As to claim 16, note that the flutes taper in a shank to tip direction (see Figure 4).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchanan (5,921,775) in view of Fluckiger (EP-120542). The instrument of Buchanan does not include cross cuts in the flutes. Fluckiger shows an endodontic instrument wherein the flutes (1a-c) have cross cuts (2-4) to improve cutting efficiency and prevent binding. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the flutes of Buchanan with cross cuts, as taught by Fluckiger, in order to improve cutting efficiency and prevent binding.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buchanan (5,921,775) in view of Johnson (6,106,295). Buchanan does not teach rolling the cutting edge. Johnson teaches that it is known to round off (or roll) the cutting edges of an endodontic instrument to overcome the tendency to laterally transport when the file is rotated in the root canal. It would have been obvious to one of ordinary skill in the art at the time the invention was made to roll the cutting edges of Buchanan, in view of Johnson, in order to overcome the tendency to laterally transport when the file is rotated in the root canal.

Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchanan (5,921,775) in view of Arpaio, Jr. et al (4,934,934). Buchanan does not teach

that the flute has a zero cutting angle. Arpaio, Jr. shows an endodontic instrument that has flute with a zero cutting angle (column 3, lines 10-16) for increased cutting efficiency. It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the cutting edges of Buchanan to have a zero cutting angle, in view of Arpaio, to increase cutting efficiency. As to claim 9, note that the shaft of Buchanan has a triangular cross-section (figure 4D-1).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buchanan (5,921,775) in view of Arpaio, Jr. et al (4,934,934) as applied to claim 7 above, and further in view of Garman (6,299,445). Neither Buchanan nor Arpaio show a shaft with a quadrilateral cross-section. Garman shows an endodontic instrument comprising a shaft having a quadrilateral cross-section and the flutes are formed by twisting the shaft. It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the shaft of the instrument of Buchanan as modified by Arpaio to have a quadrilateral cross-section, in view of Garman, in order to provide a more constant flexibility along the length of the shaft.

Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchanan (5,921,775) in view of Arpaio, Jr. et al (4,538,989). The flutes of Buchanan have radial lands. Arpaio, Jr. shows an endodontic instrument comprising helical flutes 16, 18 having a reduced land or no land (column 4, lines 34-47) making the reamer less prone to failure or breakage. It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the flutes of

Buchanan with reduced lands or no lands, in view of Arpaio, Jr., to reduce the chance of breakage.

### ***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 202 (page 2, line 11) and 902 (page 11, line 1). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 838 (Figure 8B). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cary E. O'Connor whose telephone number is 703-308-2701. The examiner can normally be reached on M-Th 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on 703-308-2582. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Cary E. O'Connor  
Primary Examiner  
Art Unit 3732

ceo  
September 3, 2004